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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/407,594	09/28/1999	GARY M. KING	PO9-99-147	2954

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BLANCHE E SCHILLER ESQ
HESLIN & ROTHENBERG PC
5 COLUMBIA CIRCLE
ALBANY, NY 12203

EXAMINER

PHAM, THOMAS K

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/407,594

Applicant(s)

KING ET AL.

Examiner

Thomas K Pham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-14, 16-25 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 9, 18, 19, 29 and 30 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-7, 10-14, 16-17, 20-25, 27-28 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

1. This action is in response to request for re-consideration filed on 07/14/2003
2. Applicant's arguments with respect to claims 1-7, 10-17, 20-28 and 31 have been considered but are moot in view of the new ground(s) of rejection.
3. Claims 8-9, 18-19 and 29-30 are allowable over prior record.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1-4, 11-14 and 21-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Ellsworth et al. U.S. Patent No. 6,453,344 (hereinafter Ellsworth).
6. As for claim 1, Ellsworth shows a method of managing logical processors of a computing environment, said method comprising: configuring a logical partition of said computing

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environment with one or more logical processors (col. 6 lines 1-5); and automatically determining based on workload of the logical partition that said configuration is to be adjusted (col. 7 lines 36-38 and col. 9 lines 7-44); and dynamically adjusting the configuration (col. 5 lines 1-7).

7. As for claim 2, Ellsworth shows the method of claim 1, wherein said dynamically adjusting is in response to workload of said logical partition (col. 5 lines 15-23).

8. As for claim 3, Ellsworth shows the method of claim 1, wherein said dynamically adjusting comprises increasing a number of logical processors allocated to said logical partition (col. 5 lines 24-31).

9. As for claim 4, Ellsworth shows the method of claim 1, wherein said dynamically adjusting comprises decreasing a number of logical processors allocated to said logical partition (col. 6 lines 50-54).

10. As for claim 11, Ellsworth shows a system of managing logical processors of a computing environment, said system comprising: means for configuring a logical partition of said computing environment with one or more logical processors (col. 6 lines 1-5); means for automatically determining based on workload of the logical partition that said configuration is to be adjusted (col. 7 lines 36-38 and col. 9 lines 7-44); and means for dynamically adjusting the configuration (col. 5 lines 1-7).

11. As for claim 12, Ellsworth shows the system of claim 11, wherein said means for dynamically adjusting is in response to workload of said logical partition (col. 5 lines 15-23).

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12. As for claim 13, Ellsworth shows the system of claim 11, wherein said means for dynamically adjusting comprises means for increasing a number of logical processors allocated to said logical partition (col. 5 lines 24-31).

13. As for claim 14, Ellsworth shows the system of claim 11, wherein said means for dynamically adjusting comprises means for decreasing a number of logical processors allocated to said logical partition (col. 6 lines 50-54).

14. As for claim 21, Ellsworth shows a system of managing logical processors of a computing environment, said system comprising: a processor adapted to configure a logical partition of said computing environment with one or more logical processors (col. 6 lines 1-5); one or more processors adapted to automatically determine based on workload of the logical partition that a configuration of the logical partition having one or more logical processors is to be adjusted (col. 7 lines 36-38 and col. 9 lines 7-44) and to dynamically adjust the configuration (col. 5 lines 1-7).

15. As for claim 22, Ellsworth shows at least one program storage device readable by a machine, tangibly embodying at least one program of instructions executable by the machine to perform a method of managing logical processors of a computing environment, said method comprising: configuring a logical partition of said computing environment with one or more logical processors (col. 5 lines 1-7); automatically determining based on workload of the logical partition that said configuration is to be adjusted (col. 7 lines 36-38 and col. 9 lines 7-44); and dynamically adjusting the configuration (col. 5 lines 1-7).

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16. As for claim 23, Ellsworth shows the at least one program storage device of claim 22, wherein said dynamically adjusting is in response to workload of said logical partition (col. 5 lines 15-23).

17. As for claim 24, Ellsworth shows the at least one program storage device of claim 22, wherein said dynamically adjusting comprises increasing a number of logical processors allocated to said logical partition (col. 5 lines 24-31).

18. As for claim 25, Ellsworth shows the at least one program storage device of claim 22, wherein said dynamically adjusting comprises decreasing a number of logical processors allocated to said logical partition (col. 6 lines 50-54).

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 6-7, 10, 16-17, 20, 27-28 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellsworth in view of George et al. U.S. Patent No. 5,659,786 (hereinafter George).

21. As for claim 6, Ellsworth teaches the method of claim 5 with automatic determination of CPU reconfiguration but does not specifically show the determination is performed at a plurality of time intervals. However, George shows the determination is performed at a plurality of time intervals (col. 3 lines 54-58). It would have been obvious to one of ordinary skill in the art at the

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time the invention was made to combine George with Ellsworth because it would provide for periodically running the algorithm of determining reconfiguration logical processors in order to obtain the best performance based on the different loads at different time interval.

22. As for claim 7, Ellsworth teaches the method of claim 5 with automatic determination of CPU reconfiguration but does not specifically show the method comprises using a predefined equation in making the determination. However, Ellsworth shows the algorithm steps for dynamic CPU configuration (col. 7 line 42-44). It would be obvious to one of ordinary skill in the art at the time the invention was made to know that there is at least one predefined equation involved as part of the algorithm presented by Ellsworth in order to calculate the number of logical processors based on the number of physical CPUs and the offline/online processors currently exist in the system.

23. As for claim 10, Ellsworth teaches the method of claim 7 with automatic determination of CPU reconfiguration but does not specifically show the method further comprises comparing a result of said predefined equation with one or more thresholds to determine whether the adjustment is to be made. However, George shows the method further comprises comparing the reconfiguration action with the reconfiguration policy to make sure it within one or more thresholds that will not violate the predefined policy (col. 7 lines 1-17). It would have obvious to one of ordinary skill in the art at the time the invention was made to combine George with Ellsworth because it would provide for setting a limit to the determination process of when a reconfiguration of logical processors should take place in order to gain the benefit of better system performance.

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24. As for claim 16, Ellsworth teaches the system of claim 15 with automatic determination of CPU reconfiguration but does not specifically show the system is performed at a plurality of time intervals. However, George shows the system is performed at a plurality of time intervals (col. 3 lines 54-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine George with Ellsworth because it would provide for periodically running the algorithm of determining reconfiguration logical processors in order to obtain the best performance based on the different loads at different time interval.

25. As for claim 17, Ellsworth teaches the system of claim 15 with automatic determination of CPU reconfiguration but does not specifically show the system comprises means for using a predefined equation in making the determination. However, Ellsworth shows the algorithm steps for dynamic CPU configuration (col. 7 line 42-44). It would be obvious to one of ordinary skill in the art at the time the invention was made to know that there is at least one predefined equation involved as part of the algorithm presented by Ellsworth in order to calculate the number of logical processors based on the number of physical CPUs and the offline/online processors currently exist in the system.

26. As for claim 20, Ellsworth teaches the system of claim 17 with automatic determination of CPU reconfiguration but does not specifically show the system further comprises means for comparing a result of said predefined equation with one or more thresholds to determine whether the adjustment is to be made. However, George shows the system comprises comparing the reconfiguration action with the reconfiguration policy to make sure it within one or more thresholds that will not violate the predefined policy (col. 7 lines 1-17). It would have obvious to one of ordinary skill in the art at the time the invention was made to combine George with

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Ellsworth because it would provide for setting a limit to the determination process of when a reconfiguration of logical processors should take place in order to gain the benefit of better system performance.

27. As for claim 27, Ellsworth teaches the at least one program storage device of claim 26 with automatic determination of CPU reconfiguration but does not specifically show the determination is performed at a plurality of time intervals. However, George shows the determination of CPU reconfiguration is performed at a plurality of time intervals (col. 3 lines 54-58). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine George with Ellsworth because it would provide for periodically running the algorithm of determining reconfiguration logical processors in order to obtain the best performance based on the different loads at different time interval.

28. As for claim 28, Ellsworth teaches the at least one program storage device of claim 26 with automatic determination of CPU reconfiguration but does not specifically show the determination comprises using a predefined equation in making the determination. However, Ellsworth shows the algorithm steps for dynamic CPU configuration (col. 7 line 42-44). It would be obvious to one of ordinary skill in the art at the time the invention was made to know that there is at least one predefined equation involved as part of the algorithm presented by Ellsworth in order to calculate the number of logical processors based on the number of physical CPUs and the offline/online processors currently exist in the system.

29. As for claim 31, Ellsworth teaches the at least one program storage device of claim 28 with automatic determination of CPU reconfiguration but does not specifically show the determination further comprises comparing a result of said predefined equation with one or more

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thresholds to determine whether the adjustment is to be made. However, George shows the determination further comprises comparing a result of said predefined equation with one or more thresholds to determine whether the adjustment is to be made (col. 7 lines 1-17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine George with Ellsworth because it would provide for setting a limit to the determination process of when a reconfiguration of logical processors should take place in order to gain the benefit of better system performance.

Response to Arguments

30. In the remark the applicant argues that cited reference fails to disclose:

I) "Automatically determining based on workload of the logical partition that said configuration is to be adjusted", as to claims 1, 11, 21, and 22.

31. In response to applicant's argument,

I) It was noted that prior art (Ellsworth et al. U.S. Patent No. 6,453,344) teaches (column 7 lines 36-38, "Even with dynamic CPU reconfiguration, the user still has the responsibility of notifying all software vendors that an upgrade will take place.") the automatic reconfiguration of the CPU using an algorithm and (column 7 lines 43-44, "The following steps present the algorithm for dynamic reconfiguration.") teaches the steps to perform the automatic CPU reconfiguration based on the workload of the logical processors. Therefore, it is clear that the adjustment of configuration is determining automatically based on workload of the logical partition by algorithm programmed within the software (Macrocode).

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Conclusion

32. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

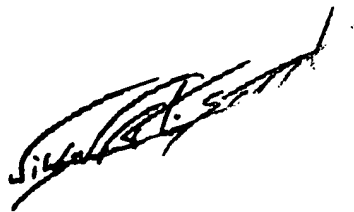
Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (703) 305-7587 and fax number is (703) 746-8874. The examiner can normally be reached on Monday-Thursday and every other Friday from 7:30AM- 5:00PM EST or contact Supervisor, *Mr. Anil Khatri*, can be reached on (703) 305-0282.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thomas Pham
Patent Examiner

TP

September 22, 2003



Wilbert L. Starks, Jr.
Primary Examiner
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